

CASTING CONNECTION

• Your Link to Investment Casting News from Ransom & Randolph •

Jan 2018

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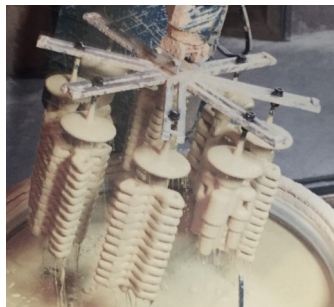
Extend Slurry Life

To get more from your ceramic shell slurries, R&R recommends following these 11 maintenance procedures:

1. Use a timer-controlled, variable-speed, propeller-type mixer for slurry makeup tanks and working tanks that are nonrotating. The timer controller helps reduce slurry temperature by eliminating heat generated by a constant mixing action. The variable-speed controller helps avoid an air-inducing vortex action in the slurry tank.

2. Use only deionized or distilled water in slurries. The impurities in tap

water could destabilize the slurry or cause premature gel formation.



3. Control removal of soluble wax cores. When an acid leach is used to eliminate soluble wax, it should be properly rinsed to prevent acid from being carried over into the slurry; as this can cause slurry pH to drop and the slurry to gel.

4. Control slurry pH. To

control the slurry pH, use a reagent-grade NH₄OH or Triethanolamine (TEA) solution, in place of straight water additions, until the binder pH reaches 9.5.

5. When using deionized or distilled water to control viscosity and/or binder solids, add several small daily additions rather than one large addition every three days or so. Adding water daily will eliminate variation in slurry properties that have the potential to cause problems in the casting process.

6. Avoid the carryover of excess stucco material

• continued on page 2 •

Save the Date: CASTcon 2018

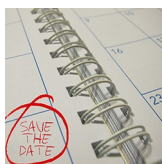
The UK cast metals industry will gather on March 27 & 28 at Cranfield University for CASTcon 2018.

This annual conference is dedicated to the metal casting sector and offers the opportunity to:

- Visit world-class research facilities
- Listen to presentations from practical foundry personnel, end users, supplier representatives & leading industrialists
- Network with potential collaborators & customers

Look for R&R at table 7! The table top exhibition runs throughout the event, featuring leading suppliers of equipment and services to the UK foundry industry.

Learn more at:
www.castmetalsfederation.com/news/2017/11/castcon-2018-save-the-date



CASTcon 2018

Future-proofing the cast metals industry
27th – 28th March 2018

Investing with Innovation™

Knockout Machine For Sale



\$29,464
plus crating & shipping

The PKI knockout machine is a cabinet-enclosed pneumatic cylinder that clamps the tree tightly while the air hammer vibrates ceramic material loose. The cabinet is sound insulated to provide a quiet shell removal environment.

Available for delivery 4-6 weeks (typically 10 weeks) from order date.

Model No.: KOM-24

Load Area: 24" x 24" x 24"

Air Hammer: 60#

Moil Point for Air Hammer: 1¼" x 14"

Bore Clamping Cylinder: 3¼"

Product Features:

- Independent pressure controls for clamping cylinder and air hammer
- Rear exit chute for ceramic material
- Sound insulation to reduce noise at operator station
- Clear Plexiglas door and lighted interior gives maximum operator visibility
- Door interlock prevents operator access to hammer during knockout
- Control panel includes hammer-start switch, timer and pneumatic valve for clamping cylinder

To order, contact Marti Hunyor at Marti.Hunyor@dentsply.com today! For more details, contact Marti Hunyor or your R&R Regional Sales Manager.



An excerpt from:

Michael J. Hendricks, R&R (1990). *Getting More from Your Ceramic Shell Slurry*. Maumee, Ohio

For more information or to request a complete copy of this technical paper, email:

RR-Marketing@dentsply.com

Extend Slurry Life

into the slurry tank.

Excess stucco can cause inconsistent slurry control and lead to weak shells. Excess stucco is easily removed by blowing parts with air or by properly manipulating them before dipping them into the ceramic shell slurry.

7. Keep the shafts of propeller mixers, blades on rotating tanks and sides of slurry tanks free of dried slurry buildup.

This buildup can cause small areas of slurry tank turbulence and introduce excess air into the slurry. It can also break free, and be trapped on shelled parts to cause weak spots.

8. Control binder solids in

the prewetting tank at a level below that of the tank into which the pre-wet parts will be dipped.

Excessive pre-wet carryover will raise binder solids by replacing water lost by evaporation. This increase in binder solids can affect the slurry defoaming characteristics, slurry coating properties and lead to premature gelling.

9. Avoid adding materials such as wetting agents and defoamers not recommended by the binder manufacturer. A binder supplier can recommend compatible surfactants for slurries.

10. Never mix different binders, especially high-

performance binders.

Components in one binder can adversely affect another.

11. Document all slurry control results & additions in a comprehensive slurry log that also lists the desired control ranges for all items tested. In most instances, the costs involved in implementing a sound slurry control and maintenance program will more than pay for itself by extending the effective life of the ceramic shell slurry. The only way to ensure the highest slurry performance and investment return is to systematize quality through a consistent, constant monitoring program.

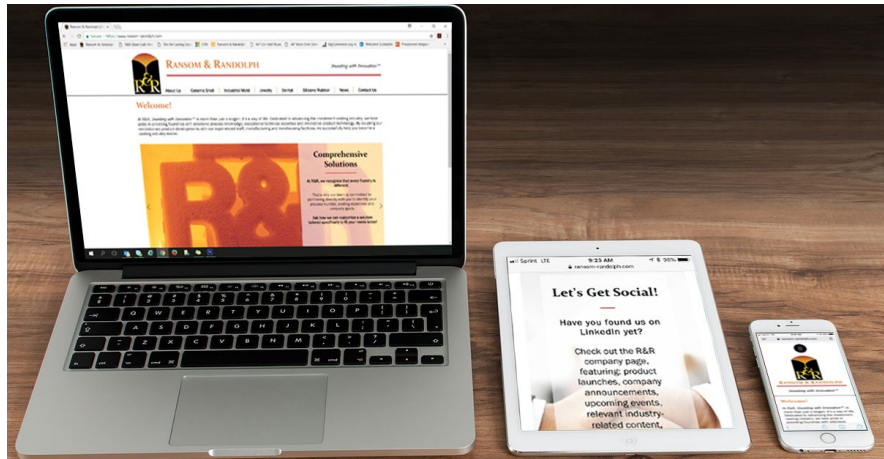
R&R Website Gets a Facelift

Have you visited our new and improved website?

With a more modern look, the new site offers a more streamlined experience, with improved resources and functionality designed exclusively for you.

Plus, now we're mobile friendly!

Visit www.ransom-randolph.com and experience the difference today!

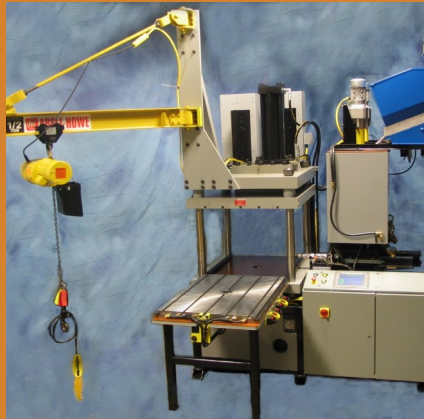


Planning 2018 Capital Expenditures?

Let the experts at R&R help!

We offer a complete line of wax injection, shell room, dewax, burnout and preheat equipment to meet your needs.

For a quote, contact your R&R Regional Sales Manager



Let's Get Digital, Digital

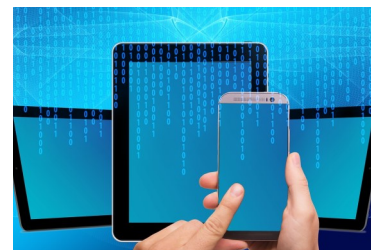
We wanna get digital. Let's get into digital.

At R&R, staying connected with you is very important to us. And if we can save a few trees in the process, even better!

Starting in January 2019, instead of sending Casting Connection out door-to-door, it

will go out exclusively server-to-screen. You will be able to enjoy the same great articles on your desktop, laptop, tablet or smartphone.

Don't miss out on future issues! To stay in the loop, please make sure you are on our email list and subscribe today!



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RANSOM & RANDOLPH

Maumee, OH 43537 USA
Toll Free: 800.253.4502
Phone: 419.865.9497
Fax: 419.865.9777

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Founded in 1872, Ransom & Randolph is dedicated to advancing the investment casting industry. R&R has provided foundries with extensive process knowledge, exceptional technical expertise and innovative product technology since the 1800s. By coupling revolutionary product developments with experienced staff, manufacturing and warehousing facilities, R&R successfully helps customers become casting industry leaders. R&R is a wholly owned subsidiary of DENTSPLY International (NASDAQ: XRAY).

R&R's core businesses are composed of Ceramic Shell, Industrial Mold, Jewelry and Dental Investment Casting.

R&R takes great pride in providing customers with a pleasant procurement experience. R&R's Maumee, Ohio based customer service team services North America and US export customers. Our UK-based agent, HTM Tradeco, Ltd., provides service for the European Union. From initial order placement through delivery, R&R's customer service team takes responsibility for accurate and efficient processing of your material needs. As a result, R&R's customer service team is unmatched in the industry.

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Model No.: PBF-352NG-DD

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